MED CSO Customer Support Operations

HOME

Technical Documentation

Order-No.: DD+DIS142.99E

1 Piece QCB3S MA1

July 99

ADC Compact
Type 5145
ADC Solo
Type 5155

Please file this document in section 10, „Modifications“
of your technical documentation

Installation Instructions

for

Galvomount

CM+9.5145.2910.2

List of Contents

1. General 1
2. Removal of the Scan Unit 2
2.1. ADC Compact 2
2.2. ADC Solo 2
3. Replacement of the Galvomount ADC Solo / Compact 6
4. Re-assembling the Scan Unit 8
5. Adjustment of the Laser Beam 8

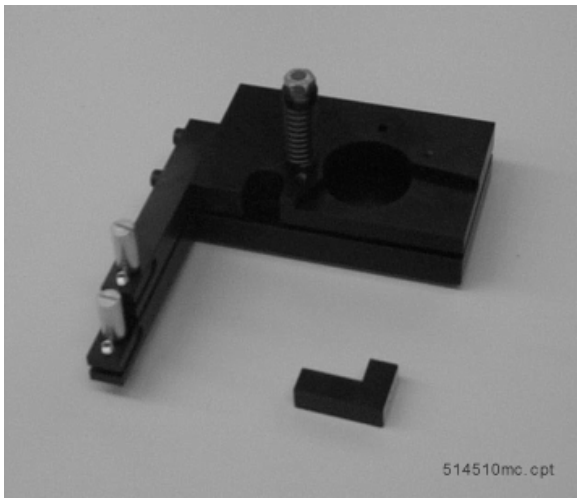
1. General

Problem:
With machines on which the galvanometer has been exchanged quite often, it can occur that the galvomount becomes defective.

Solution:
A new assembly has been created comprising a galvomount with modified adjustment screws (steel, nickel-coated and greased).

Scope of Delivery:

- 1 x galvomount with sticked in pin and ball and one fastening screw
- 1 x adjustment piece
- 1 x installation instructions



Required tools:

1 x Phillips screwdriver
1 x socket wrench 13 mm
1 x socket wrench 10mm

2. Removal of the Scan Unit

2.1. ADC Compact

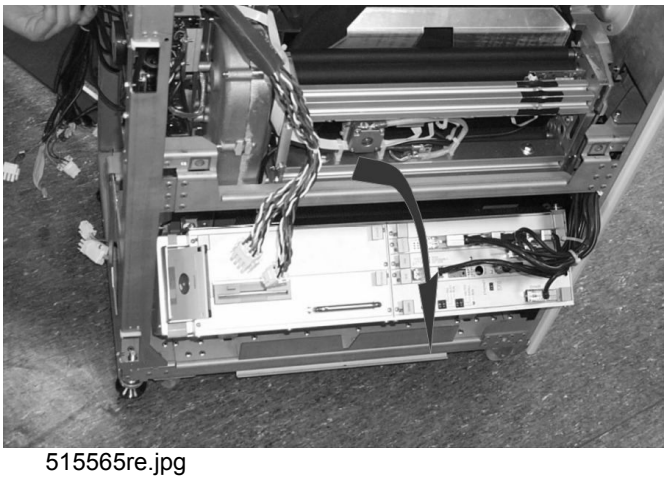
To exchange the galvomount with ADC Compact, it is not necessary to remove the scan unit completely.

- switch off the digitizer.
- open the front doors.
- unlock the scan unit and pull it out to its stop.
- continue with chapter 3.

2.2. ADC Solo

To exchange the galvomount with ADC Solo, it is necessary to remove the complete scan unit first.

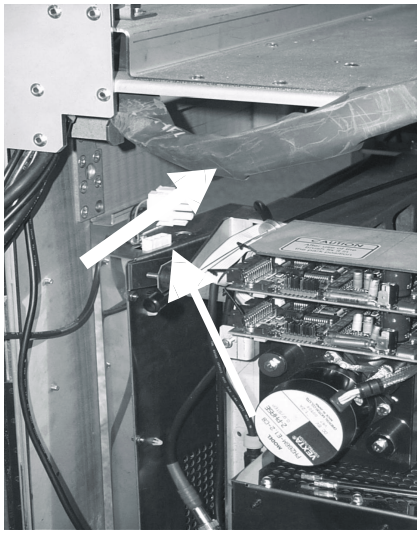
Preparations:
- open the front door.
- remove both side panels.
- remove the IP-transport unit.
- remove the erasure unit.

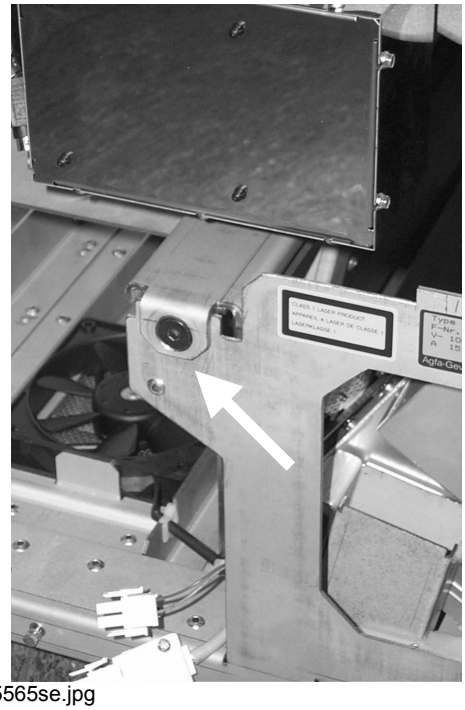


515565re.jpg

- tip over the rack.

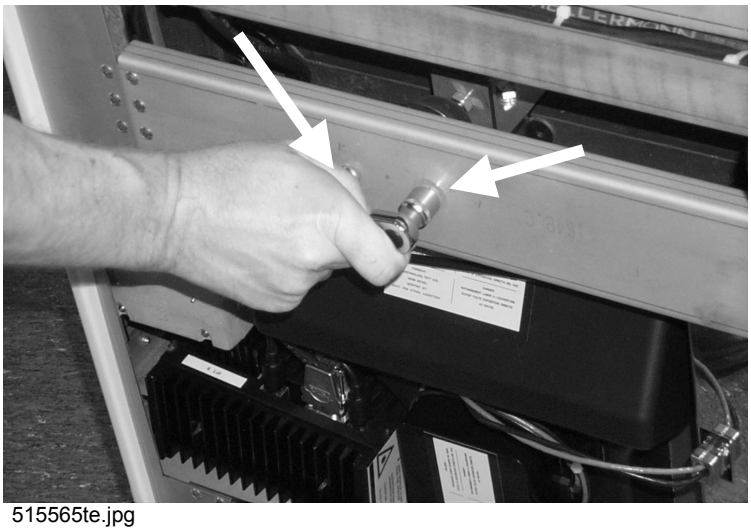
- push the scan brush inwards.





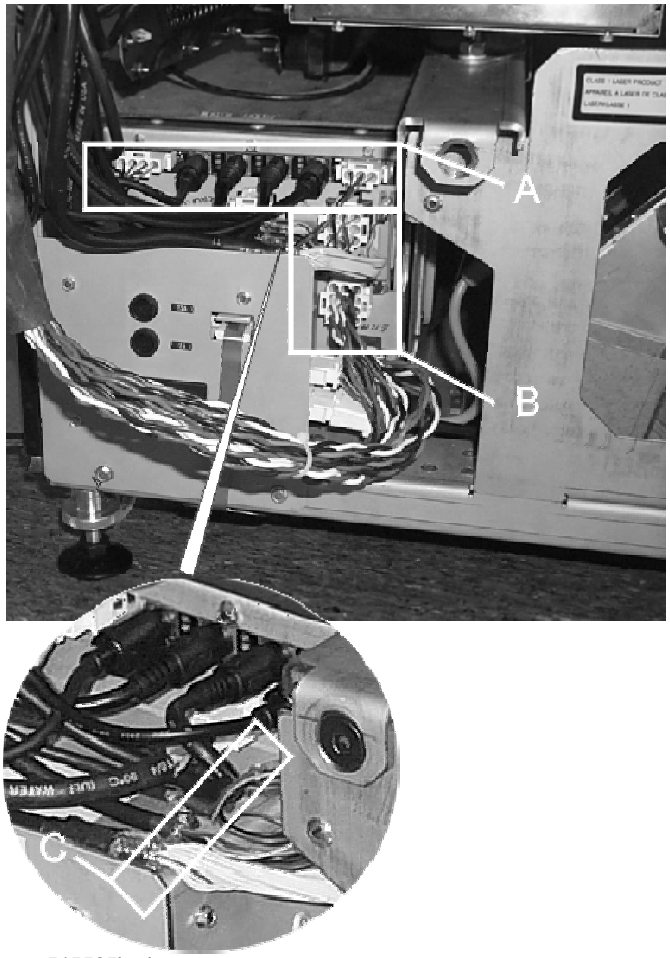
515565se.jpg

- loosen the allen screw (arrow).



515565te.jpg

- loosen both screws (arrows).
- pull out the unit a bit.

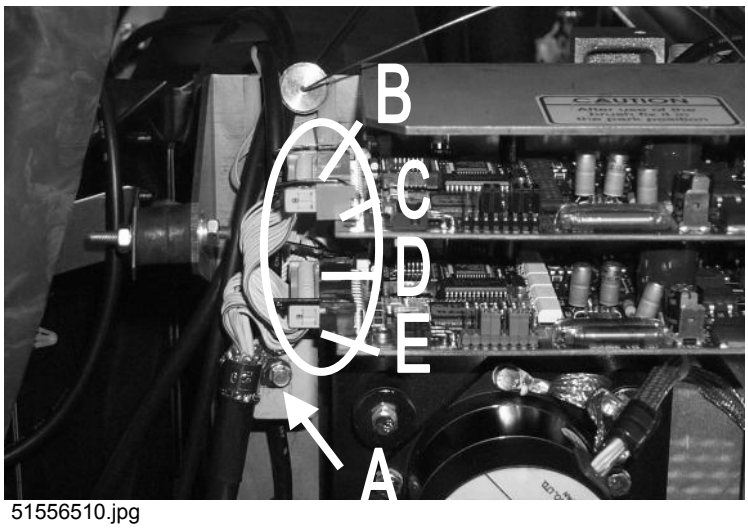


515565he.jpg

- disconnect the front plug connections(A).
- disconnect the plugs (B).

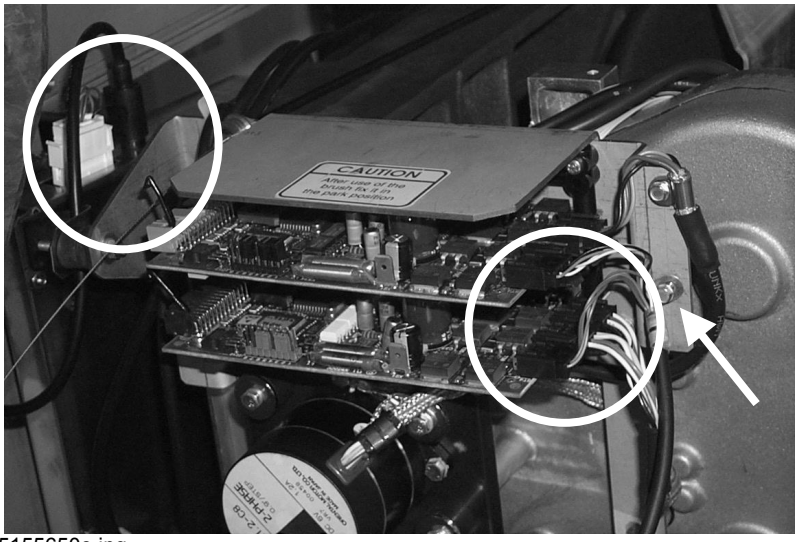
Attention:
To remove the cable touch it only at the plug!

- remove the four grounding clamps (C).



51556510.jpg

- remove grounding clamp (A).
- disconnect cables (B,C,D,E).

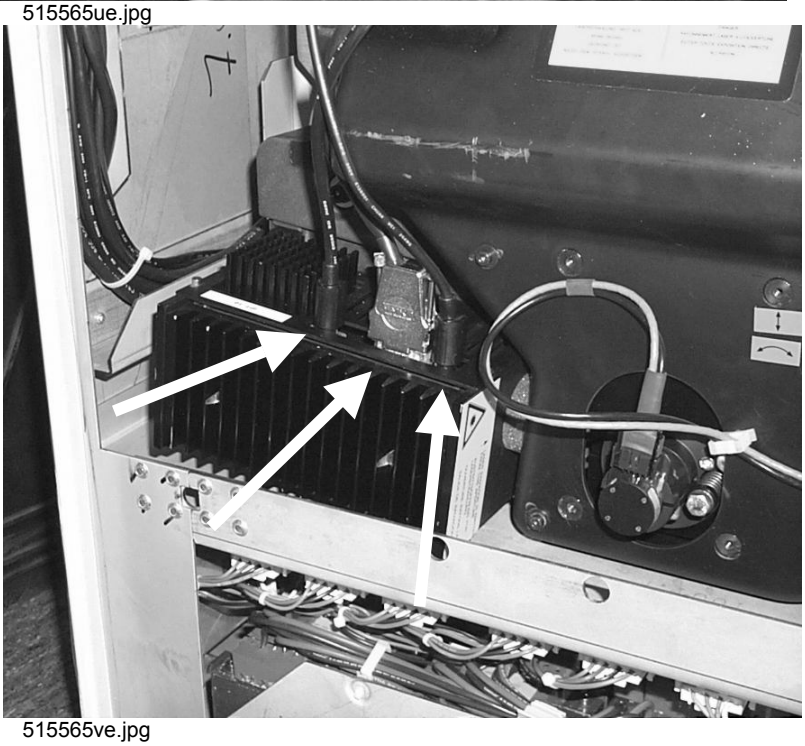


5155650e.jpg

- remove grounding clamp (arrow).
- disconnect the plugs (circles).

515565ue.jpg

- disconnect two cables at the photo multiplier (arrow).



515565ve.jpg

- disconnect three cables at the laser box (arrows).

- unlock and pull out the bayonet socket at the photo multiplier.
- pull out the unit completely and put it on its rail.

3. Replacement of the Galvomount ADC Solo / Compact

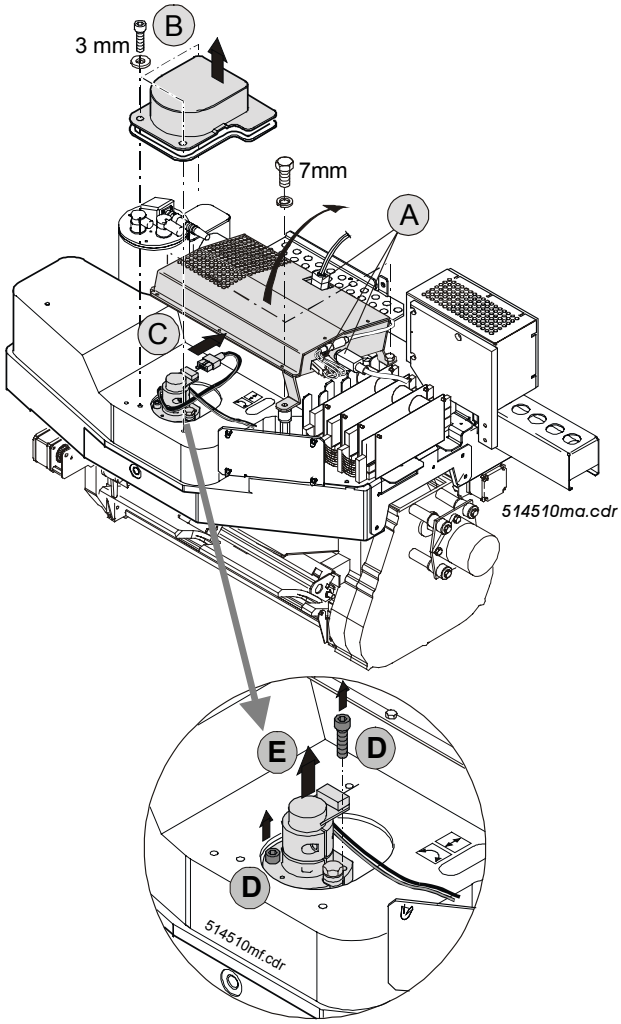
The replacement procedure of the galvomount is the same for ADC Solo and ADC Compact. The images shown in this chapter are taken from ADC Compact.

A: disconnect and remove the galvo driver board.

B: unscrew the dust cap and remove it. (ADC Solo: the screws should remain in the dust cap and not be removed completely).

C: disconnect the galvo.

⚠ make sure the plug is reconnected the right way at the end of the installation.

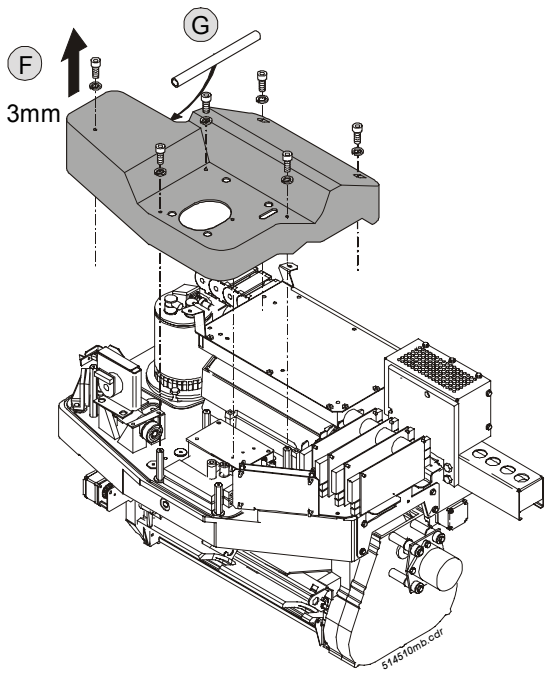


D: unscrew the galvo (2 allen screws).

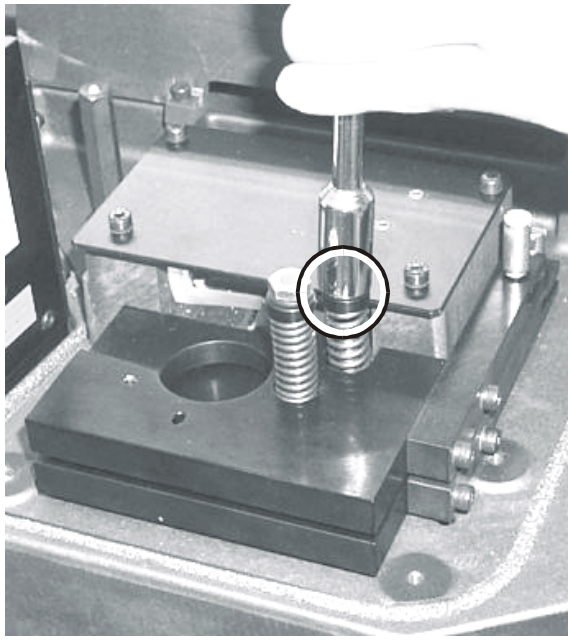
E: lift off the galvo carefully and put it aside at a place where it won't be damaged.

F: unscrew the cover and remove it.

G: unplug the PVC pipe from the boring of the hood.



- loosen and remove the outer one of the screws (circle) with a 10mm socket wrench.



Attention:
do not loosen or remove the inner screw.

- remove the galvomount as well as ball (H) and pin (I) from underneath the galvomount.

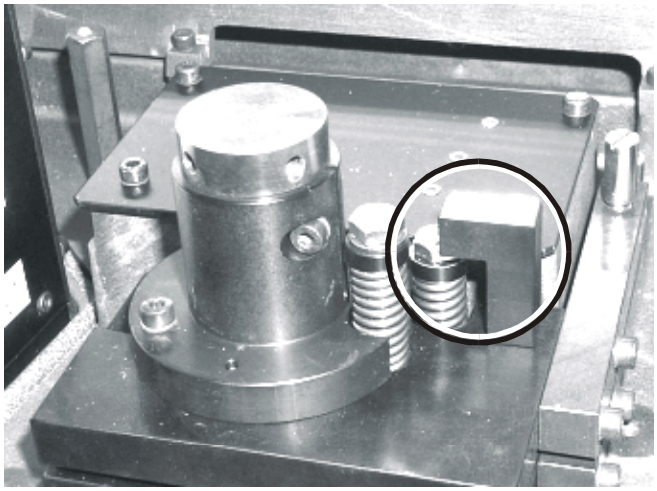
Attention:
do not throw away screw and spring (J), since they are needed again for the installation.

- put the new galvomount at its place and secure it with the screw you put aside beforehand.

  Note: ball and pin are firmly joined to the galvomount and cannot fall down any more.

- screw in the screw only so deep that its head fits exactly under the bar of the adjustment piece (see circle).

- put the galvo at its place again and secure it with the allen screws.



4. Re-assembling the Scan Unit

- mount the scan unit and put it back into the digitizer in reverse order as described in chapter 3, in chapter 2.1 (ADC Compact) and in chapter 2.2 (ADC Solo).

5. Adjustment of the Laser Beam

After the replacement of the galvomount it is necessary to adjust the laser beam.

- select: `Service menu / test and adjust / laser beam position`
  to start the adjustment procedure when software COP_1112 is loaded...

or

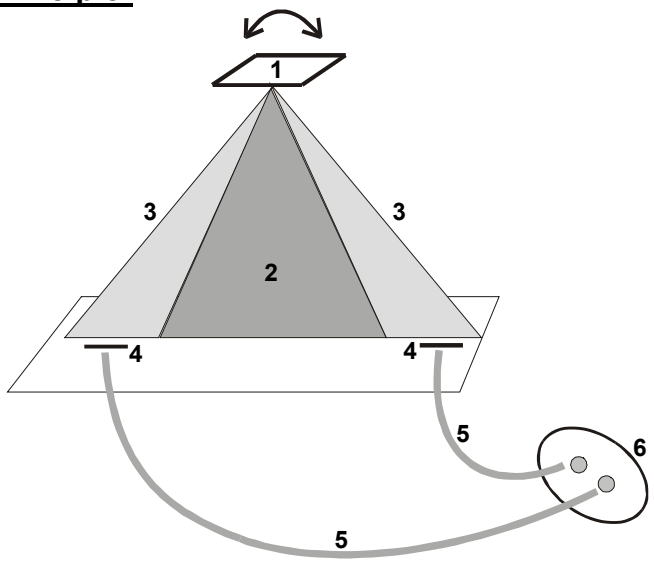
- ... select: `Service menu / checks / laser beam position`
  to start the adjustment procedure when software COP_1215 is loaded.

- both fibre spots should be on,
  if this is not the case the height- and the side- adjustment have to be varied until the fibre spots shine simultaneously.

- if the laser beam is completely misadjusted (e.g. after the galvomount has been replaced) first turn the height-adjustment screw until one fibre spot turns red;
  then turn the side-adjustment screw until the second fibre spot turns red.

It happens quite often that the first fibre spot goes out again. Turn the side-adjustment screw then until the second fibre spot turns red. Keep on turning until the second fibre spot appears a second time. Remember the amount of turns between the two control spots and turn the screw half way back. Do the height-adjustment once again until both fibre spots light up.

Principle:



1. galvo mirror
2. small scanwidth: slits (4) cannot be illuminated
3. broad scanwidth: slits are illuminated = highest amplitude of the galvo
4. slits on the PIN diodes plate
5. optical fibres
6. fibre spots: adjustment is correct, when both spots are on (red light visible)

Background information: The command `laser beam position` causes the galvo to operate with the highest amplitude. Only then the slits on the PIN diodes plate are illuminated.

6. Calibration

- Make a new calibration of all formats, see section 12 of your Technical Documentation ADC Compact or ADC Solo and FSB DD+DIS151.99E, chapter1.